

**RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 2600**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor : Robert L. Chambers

Inventor :

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For : SPEECH RECOGNITION USING

CATEGORIES AND SPEECH PREFIXING

Docket No.: M61.12-0601

Group Art Unit: 2626

Examiner: Jakieda R. Jackson

**RESPONSE AFTER FINAL**

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Sir:

Electronically Filed  
February 19, 2008

This is in response to the Office Action mailed on November 19, 2007. In the Office Action, all claims were rejected as being anticipated by Gould et al. (U.S. Patent No. 6,839,669 - hereinafter "Gould"). In this response, no claims have been amended.

Generally, the Gould reference provides techniques that allow users to draw benefits of large vocabulary continuous speech recognition while away from the desktop. See column 1, lines 56-92. Gould is directed towards a computer, which is used to perform recorded actions. The computer receives recorded spoken utterances of actions (abstract). The computer then performs speech recognition on the recorded spoken utterances to generate text of the actions (abstract). The computer then parses the text to determine properties of the actions (abstract). After parsing the text, the user can indicate that they have reviewed one or more actions (abstract). The computer then automatically carries out the actions indicated as having been reviewed by the user (abstract).

More specifically, the techniques generally employ a voice recorder (see col. 2, line 9) or direct connection via a telephone (See column 2, line 27) where the user issues a voice command. "After transferring data from the recorder, the interface software 380 provides the

digital samples for an action item to the speech recognition software 360.” Col. 7, lines 30-32. Further Gould provides, “In general, the speech recognition software analyzes the digital samples to produce a sequence of text, and provides this sequence to the interface software 380.” See col. 7, lines 35-38. Columns 7-65 of the Gould reference are directed generally to the manner in which the text provided by the speech recognition engine is parsed to discern commands and action items embedded therein. Only beginning at column 65, line 52 does Gould actually discuss mechanics of speech recognition.

An embodiment of the present Application sets forth a method of recognizing speech. The method includes detecting a pre-defined prefix. The prefix is associated with a set of grammars. The remaining speech, which is spoken after the prefix, is recognized from the set of grammars associated with the prefix. Lastly, the recognized text is directed towards a target associated with a set of grammars. Uttering the prefix allows users to easily direct text to specific grammars for enhanced recognition, and also to direct the recognized text to the appropriate application/module.

Independent claim 1 is directed towards a computer implemented method for recognizing speech which comprises the following steps:

“detecting a **predefined prefix**;  
recognizing text from speech following the prefix **using a set of grammars associated with the detected prefix**; and  
directing recognized text to a target associated with the set of grammars”  
(emphasis added).

The Office Action indicated on page 2, para. 3-page 3, para. 1:

“Applicants further argue that there is not [sic] teaching or suggestion in the entire encyclopedic disclosure of Gould of a users [sic] utterance actually having any ability to select or otherwise determine any constraint grammars to be applied to speech following a detected prefix. Once again, Applicants are arguing something that is not claimed.”

Although the term “constraint” is not used in claim 1, it is clearly claimed that a set of grammars are associated with the detected prefix. The first step in this claim clearly reads, “detecting a pre-defined prefix.” The predefined prefix is then clearly used in the next step. The step recites that text must be recognized from speech by using a set of grammars associated with

the detected prefix from the first step. This indicates that a particular set of grammars, which are associated with a detected prefix, are used during the recognition step of the method. While column 66, lines 66-67 of Gould provides, "Different constraint grammars may be active at different times ..." There is no teaching or suggestion in the entire disclosure of Gould of a prefix actually having any ability to select or otherwise determine, any particular grammars to be applied to speech following the detection of the prefix. As set forth on page 12 of Applicants' specification, "Grammar categories can be deterministically selected by uttering user-specifiable speech prefixes." Further, "In this manner, the word will be recognized based upon a much more constrained grammar and recognition accuracy will be improved."

Furthermore, the prefix which is used in Gould is used "to provide a hint that the user is creating a task" (emphasis added, Column 31, para. 2). Gould goes on to state that the phrase "create a task" accomplishes this purpose or alternatively the user can say something that implies a sense of future obligation to do something, such as "I must" or "need to." Gould further states that these preambles are most important when the user is not providing a lot of date, time, and duration information. Clearly, the preamble which is used to determine if a user is creating a task that is taught in Gould, is different than the preamble recited in claim 1, which is used to determine a set of grammars such that text can be more easily recognized. It is submitted that for at least these reasons, independent claim 1 is in form for allowance.

Independent claim 12 recites a data structure for storing information relative to a speech recognition category. The data structure includes a prefix field, a grammar field, an IsRequiredfield and a parent field. As set forth above, Applicants respectfully submit that Gould simply does not teach prefixes in the context of speech recognition, but instead identifies creation of tasks with a detected text. Accordingly, Gould simply does not provide a prefix field.

However, even if such a prefix field could be considered present in the Gould reference, there is no indication of a data structure providing a grammar field indicating a set of grammars to use with a category. The only discussion of constraint grammars begins after column 65, and there is simply no teaching or suggestion of selectable grammars associated with categories as set forth in independent claim 12.

It is also respectfully submitted that the IsRequiredfield is not taught or suggested in Gould. The IsRequired field is used to indicate whether the prefix must be uttered in order to direct speech to the set of grammars. As pointed out in the Applicants' specification on page 15, lines 14-23 the IsRequiredfield is a flag used to indicate if prefixes are required in order to invoke the category. It is respectfully pointed out, that nowhere in the Gould reference is there a suggestion that "is required" field should be used to indicate whether a prefix must be uttered to direct speech toward a set of grammars. This field is simply not mentioned in the entire encyclopedic reference of Gould. It is submitted for at least these reasons, independent claim 12 is in form for allowance.

Claim 13 is directed towards a speech recognition system. The system comprises an input for receiving speech and a processor. The processor is used for recognizing speech using a set of one or more grammars. The processor, however, is adapted to recognize a prefix associated with the desired category and to recognize speech using the set of one or more grammars associated with the desired category when the prefix is recognized to generate an output. It is respectfully submitted that the Gould reference does not teach the limitation from claim 13 "to recognize speech using the set of one or more grammars associated with the desired category when the prefix is recognized to generate an output." The prefix of claim 13 is associated with a desired category, which is in turn associated with a set of one or more grammars which can then be used to recognize speech. Although column 31, line 1 -- column 32, line 34 discusses a preamble, and column 66, line 52 to column 68, line 19 discusses constraint grammars, there is nothing in Gould to indicate that the preamble is related to a category which is in turn related to a set of one or more grammars. The preamble, which is cited by the Office Action, categorizes what the user is doing such as "the user is creating a task" (Column 31, para. 2). However, this preamble-category relationship does not relate in any way to the grammar constraints of Gould. The grammar constraints of Gould are referred to as template or restrictions and may limit the words that may correspond to an utterance (col. 66, line 52-67). There is no relation drawn from the preamble to these constraints. It is therefore submitted that for at least these reasons, claim 13 is in form for allowance.

Based on the foregoing discussion it is submitted that all independent claims 1, 12 and 13 are in form for allowance and the remaining claims are also in form for allowance based upon their dependent nature upon allowable independent claims.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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